

ABSTRACT

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An article and method for reinforcing structural members is provided. The article comprises a carbon fiber material, preferably a carbon fiber mesh with a roughened surface defined by an epoxy resin. The article has lateral fibers woven into longitudinal carbon fibers that are in tension, creating a mesh. An epoxy resin is applied to the fiber mesh to form a rigidified fiber mesh tape once the resin is cured. To obtain a roughened surface a plastic sheet is removably attached to the surface of the fiber mesh. The plastic sheet is removed thereby exposing a roughened carbon fiber surface defined by the epoxy. The rigidified fiber mesh tape is adhered to the structural member by applying a second epoxy to the structural member. The roughened surface of the rigidified carbon fiber mesh material is then joined to the second epoxy resin. To firmly adhere the fiber mesh to the structural member an impermeable material and a plastic barrier are placed above the article and the structural member. A uniform pressure is then applied with the help of an external vacuum pump till the second epoxy cures and the fiber mesh firmly adheres to the reinforced member.